

In the claims:

1. (currently amended) A method for provisioning network services, for a user application of a user device that processes traffic in the electrical domain, in an optical communication system, the method comprising:

ascertaining, from the user device, communication requirements and non-requirements of the user application;

determining a set of application-specific optical network communication services for the user application based at least in-part upon the ascertained communication requirements and non-requirements of the user application, the communications services including at least one of unshared lightpath, shared lightpath, routed path, latency, error rate, and protection mechanism; and

obtaining, from at least one device with an optical switch fabric in the optical network, the set of application-specific optical network communication services for the user application, including causing reconfiguration of the at least one optical switch fabric device for the user application.

2. (currently amended) The method of claim 1, wherein determining a set of application-specific optical network communication services for the user application based at least in-part upon the ascertained communication requirements and non-requirements of the user application comprises:

mapping the user application communication requirements and non-requirements to the optical network communication services.

3. (currently amended) The method of claim 1, wherein obtaining the set of application-specific optical network communication services for the user application comprises:

interacting with a core optical communication network to obtain the set of application-specific optical network communication services for the user application.

4. (original) The method of claim 3, wherein the core optical communication network comprises an automatically switched optical network (ASON).

5. (currently amended) The method of claim 1, wherein determining ~~the~~ a set of application-specific optical network communication services for the user application comprises:

interacting with at least one peer user application to determine the set of communication services for the user application.

6. (currently amended) An optical service agent for provisioning network services, for a user application of a user device that processes traffic in the electrical domain, in an optical communication system, the optical service agent comprising:

application component logic for ascertaining, from the user device, communication requirements and non-requirements of the user application;

network component logic for determining a set of application-specific optical network communication services for the user application based at least in-part upon the communication requirements and non-requirements of the user application, the communication[[s]] services including at least one of unshared lightpath, shared lightpath, routed path, latency, error rate, and protection mechanism; and

network component logic for obtaining the set of application-specific optical network communication services for the user application, including causing reconfiguration of at least one device with an optical switch fabric for the user application.

7. (currently amended) The optical service agent of claim 6, wherein the network component logic for determining a set of application-specific optical network communication services for the user application based at least in-part upon the communication requirements and non-requirements of the user application comprises:

logic for mapping the communication requirements and non-requirements to the communication services.

8. (previously presented) The optical service agent of claim 6, wherein the logic for obtaining the communication services for the user application comprises:

logic for interacting with a core optical communication network to obtain the communication services for the user application.

9. (previously presented) The optical service agent of claim 8, wherein the logic for interacting with a core optical communication network to obtain the communication services for the user application comprises a user-to-network interface (UNI).

10. (original) The optical service agent of claim 9, wherein the core optical communication network comprises an automatically switched optical/transport network (ASON), and wherein the UNI comprises an ASON UNI.

11. (currently amended) The optical service agent of claim 6, wherein the logic for determining communication services for the user application comprises:

logic for interacting with at least one peer user application to determine communication services for the user application.

12. (currently amended) A device comprising:

a user application of a user device that processes traffic in the electrical domain, the user application requiring communication services from an optical communication network; and  
an optical service agent operable to

determine, from the user device, a set of application-specific communication services required by the user application, the communications services including at least one of unshared lightpath, shared lightpath, routed path, latency, error rate, and protection mechanism, and

provision the set of application-specific communication services for the user application, including causing reconfiguration of at least one device with an optical switch fabric for the user application.

13. (previously presented) The device of claim 12, wherein the optical service agent comprises:

logic for ascertaining communication requirements and non-requirements of the user application;

logic for determining a set of communication services for the user based at least in-part upon the communication requirements and non-requirements of the user application; and

logic for obtaining the communication services for the user application.

14. (previously presented) The device of claim 13, wherein the logic for determining a set of communication services for the user application based at least in-part upon the communication requirements and non-requirements of the user application comprises:

logic for mapping the communication requirements and non-requirements to the communication services.

15. (previously presented) The device of claim 13, wherein the logic for obtaining the communication services for the user application comprises:

logic for interacting with a core optical communication network to obtain communication services for the user application.

16. (previously presented) The device of claim 15, wherein the logic for interacting with a core optical communication network to obtain the communication services for the user application comprises a user-to-network interface (UNI),.

17. (original) The device of claim 16, wherein the core optical communication network comprises an automatically switched optical/transport network (ASON)/ and wherein the UNI comprises an ASON UNI.

18. (previously presented) The device of claim 13, wherein the logic for obtaining the communication services for the user application comprises:

logic for interacting with peer user applications to obtain the communication services for the user application.

19. (previously presented) The device of claim 18, wherein the logic for interacting with peer user applications to obtain the communication services for the user application comprises a peer-to-peer interface.

20. (currently amended) A system comprising:

an optical communication network; and

a network user application of a user device that processes traffic in the electrical domain coupled to the optical communication network, wherein the network user application comprises an optical service agent for obtaining application-specific optical communication services from the optical communication network via a user-to-network interface (UNI) sufficient to support operation of the network user application, the application-specific communications services being ascertained from the user device and including at least one of unshared lightpath, shared lightpath, routed path, latency, error rate, and protection mechanism, wherein obtaining the application-specific services includes causing reconfiguration of at least one device with an optical switch fabric for the user application.

21. (original) The system of claim 20, wherein the optical communication network comprises an automatically switched optical/transport network (ASON), and wherein the UNI comprises an ASON UNI.

22. (previously presented) The system of claim 20, wherein the optical service agent comprises: logic for ascertaining communication requirements and non-requirements of the network user application;

logic for determining a set of communication services for the network user application based at least in-part upon the communication requirements and non-requirements of the network user application; and

logic for obtaining the communication services for the network user application.

23. (previously presented) The system of claim 22, wherein the logic for determining a set of communication services for the network user application based at least in-part upon the communication requirements and non-requirements of the network user application comprises:

logic for mapping the communication requirements and non-requirements to the communication services.

24. (previously presented) The system of claim 22, wherein the logic for obtaining the communication services for the network user application comprises:

logic for interacting with the optical communication network to obtain the communication services for the network user application.

25. (original) The system of claim 22, further comprising a number of peer network user applications.

26. (previously presented) The system of claim 15, wherein the logic for obtaining the communication services for the user application comprises:

logic for interacting with the number of peer network user applications to obtain the communication services for the network user application.

27. currently amended) The optical service agent of claim 11, wherein the logic for interacting with at least one peer user application[[s]] to [[obtain]] determine the communication services for the user application comprises a peer-to-peer interface.